Docket No.: Q96727 TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

(previously presented) A thiazole derivative represented by the formula 1.

$$X^{2} \cdot X^{1}$$
 $A - R^{1}$
 R^{2}

or a pharmaceutically acceptable salt thereof,

wherein:

 X^1 and X^2 are different from each other and represent a sulfur atom or a carbon atom;

R¹ represents a phenyl group;

a phenyl group substituted with 1 to 5 members selected from the group consisting of halogen atoms, alkyl groups having 1 to 6 carbon atoms, alkoxy groups having 1 to 6 carbon atoms, a hydroxy group, phenylalkoxy groups having 7 to 12 carbon atoms, and alkylamino groups having 1 to 6 carbon atoms;

a phenyl group condensed with a 5 to 7 membered hetero aromatic or nonaromatic ring having at least one hetero atom selected from the group consisting of N, O, and S;

a pyridyl group;

a quinolyl group;

an isoquinolyl group; or

a pyridyl group condensed with a 5 to 7 membered hetero aromatic ring having at least one hetero atom selected from the group consisting of N, O, and S;

R² represents a hydrogen atom, a halogen atom, an alkyl group having 1 to 6 carbon atoms, an alkyl group having 1 to 6 carbon atoms substituted with 1 to 5 halogen atoms, an alkoxy group

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

having 1 to 6 carbon atoms, an alkanoyl group having 1 to 6 carbon atoms, or a hydroxyalkyl group having 1 to 5 carbon atoms; and

Docket No.: Q96727

A represents a group which is represented by the formula

$$R^3 \longrightarrow N$$

or

wherein:

R³ represents a hydrogen atom;

a hydroxy group;

an alkyl group having 1 to 6 carbon atoms;

a phenylalkyl group having 7 to 12 carbon atoms; or

a phenylalkyl group having 7 to 12 carbon atoms, substituted with a hydroxy group, an alkoxy group having 1 to 6 carbon atoms, an alkoxy group having 1 to 6 carbon atoms substituted with an alkoxy group having 1 to 6 carbon atoms, or an alkoxy group having 1 to 6 carbon atoms substituted with an alkylamino group having 1 to 6 carbon atoms,

R⁴ represents a phenyl group;

a phenyl group substituted with 1 to 5 members selected from the group consisting of halogen atoms, alkyl groups having 1 to 6 carbon atoms, alkoxy groups having 1 to

PRELIMINARY AMENDMENT AND RESPONSE Docket No.: Q96727 TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

6 carbon atoms, a carbamoyl group, and a cyano group;

a hydrogen atom;

an alkyl group having 1 to 12 carbon atoms;

an alkenyl group having 2 to 12 carbon atoms;

a cycloalkyl group having 3 to 7 carbon atoms;

an alkyl group having 1 to 12 carbon atoms substituted with an alkoxy group having 1 to 6 carbon atoms, a hydroxy group, an alkoxyphenylalkoxy group having 8 to 12 carbon atoms, a phthalimidoyl group, a toluenesulfonyloxy group, or a morpholino group;

an alkyl group having 1 to 6 carbon atoms substituted with 1 to 5 halogen atoms;

a cycloalkyl group having 3 to 9 carbon atoms substituted with an oxo group;

a tetrahydropyranyl group;

a 4-piperidinyl group;

a piperidinyl group substituted with an alkyl group having 1 to 6 carbon atoms or a t-butoxycarbonyl group;

a cyclohexanespiro-2'-(1,3-dioxoranyl) group;

a pyrrolidin-2-one-5-yl group;

a group represented by the formula $-Y^1-Z^1-NR^5-Z^2-Y^2-R^6$,

wherein:

 Y^1 and Y^2 are the same or different from each other and represent a single bond or an alkylene group having 1 to 12 carbon atoms;

R⁵ represents a hydrogen atom or an alkyl group having 1 to 12 carbon atoms;

 Z^1 and Z^2 are the same or different from each other and represent a single bond;

an alkylene group having 1 to 7 carbon atoms;

-CO-;

-CO₂-;

PRELIMINARY AMENDMENT AND RESPONSE Docket No.: Q96727

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

 $-SO_2$ -; or

-OCO-, and

R⁶ represents

a cycloalkyl group having 3 to 7 carbon atoms;

an alkyl group having 1 to 6 carbon atoms substituted with 1 to 3 halogen atoms;

an alkenyl group having 2 to 6 carbon atoms;

an alkynyl group having 2 to 6 carbon atoms;

an amino group;

an amino group substituted with 1 to 2 groups selected from the group consisting of an alkyl group having 1 to 6 carbon atoms, a cycloalkyl group having 3 to 7 carbon atoms, and a t-butoxycarbonyl group;

a piperidino group;

a piperidinyl group;

a piperidinyl group substituted with an alkyl group having 1 to 6 carbon atoms;

a pyrrolidinyl group;

a piperazinyl group;

a piperazinyl group substituted with an alkyl group having 1 to 6 carbon atoms;

a morpholino group;

a hydroxy group;

an alkoxy group having 1 to 6 carbon atoms;

an alkoxy group having 1 to 6 carbon atoms substituted by a hydroxy group or an alkoxy group having 1 to 6 carbon atoms;

an oxetan-2-yl group;

a tetrahydrofuranyl group;

a tetrahydropyranyl group;

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

a hydrogen atom;

a phenyl group;

a phenyl group substituted with an alkoxy group having 1 to 4 carbon atoms; or

Docket No.: Q96727

a group that forms a ring when linked to the nitrogen atom of the above formula;

or

a group represented by the formula -Y³-CO-R⁴¹,

wherein:

Y³ represents a single bond or an alkylene group having 1 to 7 carbon atoms,

R⁴¹ represents

a hydroxy group;

an alkoxy group having 1 to 6 carbon atoms;

a piperidino group;

a piperazin-1-yl group substituted by an alkyl group having 1 to 6 carbon atoms, a morpholinoalkyl group having 5 to 10 carbon atoms, or an alkylaminoalkyl group having 2 to 14 carbon atoms; or

a morpholino group.

- 2. (previously presented) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein R² is a hydrogen atom, a halogen atom, an alkyl group having 1 to 6 carbon atoms or an alkyl group having 1 to 6 carbon atoms substituted with 1 to 5 halogen atoms.
- 3. (previously presented) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein R^2 is an alkyl group having 1 to 6 carbon atoms or a trifluoromethyl group.
- 4. (previously presented) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein \mathbb{R}^2 is a methyl group or a trifluoromethyl group.

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

5. (previously presented) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein R¹ is a phenyl group condensed with a 5 to 7 membered hetero aromatic or non-aromatic ring containing at least one hetero atom selected from the group consisting of N, O, and S.

Docket No.: Q96727

- 6. (previously presented) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein X^1 is a sulfur atom and X^2 is a carbon atom.
- 7. (withdrawn) An ALK5 inhibitor having, as an active ingredient, the thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1.
- 8. (withdrawn) The ALK5 inhibitor according to claim 7, which is a therapeutic agent for glomerulonephritis, diabetic nephropathy, hepatic fibrosis, liver cirrhosis, pulmonary fibrosis, proliferative vitreoretinopathy, or alopeciarosis, or a hair growth agent.
- 9. (withdrawn) The ALK5 inhibitor according to claim 7 or 8, which is an external medicine.
- 10. (withdrawn) A hair follicle proliferation stimulant, having an ALK5 inhibitor as an active constituent.
- 11. (withdrawn) A hair growth stimulant or a hair growth agent, having an ALK5 inhibitor as an active ingredient.
- 12. (withdrawn) A thiazole derivative represented by the formula

$$R^2$$
 N A^1-R^1

or a pharmaceutically acceptable salt thereof,

wherein:

 X^1 and X^2 are different from each other and represent a sulfur atom or a carbon atom; R^1 represents a phenyl group;

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

a phenyl group substituted by 1 to 5 members selected from the group consisting of halogen atoms, alkyl groups having 1 to 6 carbon atoms, alkoxy groups having 1 to 6 carbon atoms, a hydroxy group, phenylalkoxy groups having 7 to 12 carbon atoms, and alkylamino groups having 1 to 6 carbon atoms;

Docket No.: Q96727

a phenyl group condensed with a 5 to 7 membered hetero aromatic or non-aromatic ring having at least one hetero atom selected from the group consisting of N, O, and S;

a pyridyl group;

a quinolyl group;

an isoquinolyl group; or

a pyridyl group condensed with a 5 to 7 membered hetero aromatic ring having at least one hetero atom selected from the group consisting of N, O, and S;

R² represents a hydrogen atom, a halogen atom, an alkyl group having 1 to 6 carbon atoms, an alkyl group having 1 to 6 carbon atoms substituted with 1 to 5 halogen atoms, an alkoxy group having 1 to 6 carbon atoms, an alkanoyl group having 1 to 6 carbon atoms, or a hydroxyalkyl group having 1 to 5 carbon atoms; and

A¹ represents a group which is represented by the formula

wherein X³ represents a hydrogen atom, a halogen atom, or an alkyl group having 1 to 6 carbon atoms.

13. (new) The thiazole derivative or a pharmaceutically acceptable salt thereof according to claim 1, wherein X^1 is a sulfur atom and X^2 is a carbon atom;

TO RESTRICTION AND ELECTION OF SPECIES REQUIREMENTS

Application No.: 10/591,614

 R^1 is a phenyl group condensed with a 5 to 7 membered hereto aromatic or non-aromatic ring having at least one hereto atom selected from the group consisting of N, O, and S R^2 is a methyl group;

Docket No.: Q96727

and A represents a group which is represented by the formula

A:

wherein R³ is a hydrogen atom and

R⁴ is represented by the formula:

 $-Y^1-Z^1-NR^5-Z^2-Y^2-R^6$, wherein $-Y^1-Z^1$ is -CH2- ;R⁵ is a hydrogen atom; Z^2 is -CO2-;Y² is 2-methylpropan-1,3-diyl, and R⁶ is a hydrogen atom.